DOCUMENT RESUME

ED 228 936 HE 016 105

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TITLE Criteria for the Evaluation of Student Loan Alternatives.
INSTITUTION National Commission on Student Financial Assistance, Washington, DC.
PUB DATE 2 Aug 82
NOTE 70p.; Not available in paper copy due to marginal legibility of original document.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Access to Education; *Federal Aid; Financial Needs; Government Role; Higher Education; Interest (Finance); Legal Responsibility; *Loan Repayment; *Private Financial Support; State Aid; *Student Loan Programs
IDENTIFIERS Bankruptcy; *National Comm on Student Financial Assistance

ABSTRACT

The objectives of student loan programs and the consequences of specific programmatic determinations are considered. In addition to the primary function of providing access to capital markets for the financing of human capital investment, the student loan system in the United States has been utilized as: (1) a mechanism to subsidize schooling costs; (2) a means to induce particular schooling and occupational decisions; (3) a device by which to reduce tuition differentials; and (4) a quasi-beneficiary tax for the financing of higher education. The following dimensions of programmatic choice in structuring a student loan system are examined: legal treatment of the student's obligation, institutional structure and administrative arrangements, source of capitalization, locus of risk-bearing, terms of the student's obligation and of the lender's asset, degree of subsidization, and rationing criteria and other individual/institutional constraints. The issue of governmental versus private capitalization is addressed, and a distinction is made between capital and interest rate/return financial risks. In addition, interest rate and accrual provisions, amortization provisions, and default provisions are discussed. (SW)

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CRITERIA FOR THE EVALUATION OF STUDENT LOAN ALTERNATIVES

A Report to the
National Commission on Student Financial Assistance

by

BEST COPY AVAILABLE

Stephen F. Dresch, Chairman

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August 2, 1982

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Precis

1. Despite intensive public review and scholarly examination, legislative actions and proposals involving student loan programs have generally failed to consider seriously the objectives of these programs and the intended and unintended consequences of specific programmatic determinations.

2. Two broad classes of functions have or might be performed by a student loan system.

2.1 The primary purpose is to provide access to the capital market for the financing of educational investments on terms comparable to those on which other types of investment can be financed. Achievement of this purpose requires that (a) the student's obligation be made legally enforceable, (b) amortization of the obligation take into account the fact that much of the benefit of the educational investment accrues long after completion of schooling, and (c) the risks associated with schooling investments be recognized, with provision for desirable pooling or shifting of risk.

2.2 A number of secondary functions have been served by or proposed for student loan programs, including (a) serving as a mechanism for subsidizing schooling, (b) inducing particular schooling and occupational choices of students, (c) implicitly or explicitly reducing public- private tuition differentials, and (c) providing a quasi- beneficiary tax for the financing of higher education. Likely conflicts between the primary and secondary functions are suggested, and the probable inefficiency of the student loan system as a device for achieving secondary objectives is indicated.

3. Seven dimensions of programmatic choice are delineated, and the range of possible options in each are identified:

3.1 Legal treatment of the student's obligation. Two possible changes in the treatment under bankruptcy law of student loans (and, ideally, other unsecured obligations) are suggested. (1) Provide for discharge via bankruptcy only of defaulted payments, but continue future obligations in force. (2) Continue the entire obligation in force. While appearing to benefit borrowers, current law is in fact disadvantageous in that it reduces (if not eliminates) the supply of credit to unsecured borrowers.

3.2 Institutional structure and administrative arrangements. Options of private, governmental and mixed institutionalizations of the student loan system are discussed.

3.2.1 Private institutionalization. While a range of private institutional auspices are possible, it is likely that major institutional investors would play primary roles in a fully private system, contracting loan origination, borrower monitoring and

collection to other agencies (universities and colleges, retail financial institutions, national collection organizations).

3.2.2 Governmental institutionalization. In its most extreme form a single governmental monopoly ("national student loan bank") might be created as part of an executive- branch agency, an independent agency or a quasigovernmental corporation. It might create its own servicing divisions or contract these functions to other governmental (or nongovernmental) entities, e.g., the Internal Revenue Service or the Social Security Administration.

3.2.3 Mixed systems. These might include (a) a governmental agency guaranteeing loans made by private lenders (the current role played by the Federal government in the Guaranteed Student Loan program), (b) a governmentally- sponsored secondary market agency designed to increase the flow of capital to the system (the current function of th National Student Loan Marketing Association), (c) the channeling of Federal funds (appropriated or obtained via off- budget borrowing) to private lenders, (d) increased reliance on sub- Federal governmental agencies (expanding the role of the existing state guarantee agencies), (e) providing access of private lenders to Federal information and collection services, etc. A distinction is made between public- private institutionalization and the degree of statutory constraint subject to which the system operates.

3.3 Sources of capitalization. The issue of governmental versus private capitalization is addressed.

3.3.1 Private capitalization. If the rate of return to the student loan portfolio is permitted to respond to market conditions (and to the risks and costs of the portfolio), the supply of capital would be responsive to the demand for loans. The composition of private capital (equity, long- and short- term debt) would depend upon the riskiness of the portfolio and the terms of the student loan note.

3.3.2 Governmental capitalization. It is demonstrated that governmental appropriations and off- budget Federal borrowing entail the same cost of capital to the student loan system (the interest rate on Federal debt). State- local tax- exempt borrowing is indicated to be substantially more expensive (in fact, above the true economic cost of capital to the system). Capital supply, as opposed to loan subsidization, is argued to be irrelevant to the governmental appropriations process; hence, appropriated capital is inappropriate.

3.3.3 Private versus governmental capitalization. It is argued that the true cost of capital to the student loan system (the interest rate on other comparably risky assets) is independent of the choice of governmental versus private capital supply. A decision to subsidize student loans does not require public capitalization, but it may be difficult or impossible to determine whether or not interest subsidies are in excess of those required to draw capital into the system; to permit such a determination, it is argued that,

when an interest subsidy is provided to lenders, the rate imposed on student obligations be left to negotiation between the borrower and lender.

3.4 Locus of risk bearing. A distinction is made between capital and interest- rate/return (financial) risks.

3.4.1 Capital risk. The residual risk of default (after appropriate changes in bankruptcy law, if undertaken) may be borne either by the lender or by the government. With a legally enforceable obligation, forcing the lender to bear this risk would be accomodated by an increase in the cost of capital (sufficient to cover default losses). Governmental bearing of the default risk raises the possiblity that the lender would not attempt effectively to enforce payment; thus, some degree of coinsurance should be required.

3.4.2 Financial risk. The risk of changes in interest rates can be accomodated by providing for interest rates which vary over the life of the student's obligation. This protects both borrower and lender from their respectively more serious developments.

3.5 Terms of the student's obligation and of the lender's asset. Three facets of this issue are addressed:

3.5.1 Interest rate and accrual provisions. It is argued that, even if student loan interest rates are to be subsidized, the rate should vary with financial market conditions; otherwise the level of subsidization will vary, being higher for persons who borrow in highly inflationary periods (notwithstanding their more rapid rate of income growth). With reference to interest over the schooling period, it is argued that, to minimize arbitrage incentives, interest should be accrued and compounded on the student's debt.

3.5.2 Amortization provisions. The benefits of lengthening the repayment period and providing for a (positively) graduated schedule of repayment are indicated. Consequences for the costs of federal subsidies, it is argued, should be compensated by reducing the degree of interest subsidy or by providing the subsidy in another form, e.g., as a lump- sum front- end payment to the borrower. Difficulties with income- contingent repayment provisions are discussed, but a form of income- contingency (conforming to a "disaster insurance" model) in which the vast majority of borrowers fully requite their obligations is found to have desirable implications.

3.5.3 Default provisions. The arguments for imposing some degree of coinsurance (or even the entire default risk) on lenders is reiterated.

3.6 Degree and mechanism of subsidization. Two types of subsidization are distinguished:

3.6.1 Interest subsidies. Because of the incentives for arbitrage and of

other behavioral consequences for students (reductions reliance on family funds, work, etc., for the financing of schooling), interest subsidies are argument to be of highly questionable desirability, especially since alternative means of subsidizing students are available.

3.6.1 Targetted subsidies. These are argued also to have generally unanticipated and undesirable consequences for the behavior of students, lenders and institutions.

3.7 Rationing criteria and related constraints. These are argued to be necessary primarily because of high degrees of subsidization. Because they inevitably result in undesirable constraints for individual borrowers who truly require (and would be willing to pay unsubsidized prices for) capital, the possibility of eliminating these constraints provides the strongest argument for reducing or ending loan subsidies.

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INVOICE

CONTRACT NUMBER: Your order #T22381673
ORGANIZATION: National Commission on Student Financial Assistance
REPRESENTATIVE: Douglas N. Ross

PRINCIPAL INVESTIGATOR: Stephen P. Dresch
DATE: August 2, 1982

DESCRIPTION:	AMOUNT:
Draft of analysis of student loans including functions of loan system and dimensions of programmatic decisions.	$4,300.00

CERTIFIED BY: Adair L. Waldenberg 8/2/82

Adair L. Waldenberg — Date
President
Institute for Demographic and Economic Studies, Inc.

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1. INTRODUCTION

Prior to the National Defense Education Act of 1958 the student loan system in the United States was limited to small- scale, short- term college and university lending to students. With the creation of the National Defense (later Direct) Student Loan (NDSL) program in 1958 and of the Guaranteed Student Loan (GSL) program in 1965, credit became a potentially significant source of financing for postsecondary education. However, only over the course of the 1970s, and especially in response to the liberalization of the GSL program in 1978, was this potential effectively realized.

Over this 25 year period of development the U.S. student loan system has been subjected to several intensive public reviews, most notably in the Zacharias Report of 1967,[1] and in studies commissioned by the Carnegie Commission on Policy Studies in Higher Education[2] and the Ford Foundation.[3] Over this period scholarly attention has also focused on the subject of student loans.[4] In general, however, legislative developments have not been

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[1] Panel on Educational Innovation (Jerrold Zacharias, Chairman), Educational Opportunity Bank: A Report of the Panel on Educational Innovation to the U.S. Commissioner of Education, the Director of the National Science Foundation, and the Special Assistant to the President for Science and Technology (Washington, D.C.: U.S. Government Printing Office, 1967).

[2] Robert W. Hartman, Credit for College: Public Policy for Student Loans (New York: McGraw Hill, 1971).

[3] D. Bruce Johnstone, New Patterns for College Lending: Income Contingent Loans (New York: Columbia University Press, 1972).

[4] See, e.g.: Milton Friedman, "The Role of Government in Public Education," in R.A. Solo, ed., Economics and the Public Interest (New Brunswick: Rutgers University Press, 1955); William Vickrey, "A Proposal for Student Loans," in Selma J. Mushkin, ed., Economics of Higher Education (Washington, D.C.: Department of Health, Education, and Welfare, 1962); Karl Shell et al., "The Educational Opportunity Bank: An Economic Analysis of a Contingent Repayment Loan Program for Higher Education," National Tax Journal (March 1968), and "Notes on the Educational Opportunity Bank," National Tax Journal (June 1970); Andre Daniere, "The Benefits and Costs of Alternative Federal Programs of Financial Aid to College Students," in The Economics and

significantly influenced by these bodies of analysis. Without excessive over-generalization, it can be asserted that major initiatives, actual and proposed, and also more incremental programmatic modifications have been undertaken on a very ad hoc basis, without serious consideration of long- term objectives and probable consequences.[5]

The purpose of this paper is two- fold: first, to briefly outline the functions which might be served by a student loan system, and second, to identify the important dimensions of programmatic choice and the range of options within each, with consideration for the consequences of specific programmatic choices for the effectiveness with which the functions of the system are performed.

Financing of Higher Education in the United States: A Compendium of Papers Submitted to the Joint Economic Committee, Congress of the United States (Washington, D.C.: U.S. Government Printing Office, 1969); Stephen P. Dresch and Robert D. Goldberg, "Variable Term Loans for Higher Education: Analytics and Empirics," Annals of Economic and Social Measurement (January 1972); Marc Nerlove, "On Tuition and the Costs of Higher Education: Prolegomena to a Conceptual Framework," Journal of Political Economy (May/June 1972, Part II), and "Some Problems in the Use of Income Contingent Loans for the Finance of Higher Education," Journal of Political Economy (February 1975); and Stephen P. Dresch, "Financial and Behavioral Implications of Federal Student Loan Programs and Proposals," in H. Tuckman and E. Whalen, eds., Subsidies to Higher Education: The Issues (New York: Praeger, 1980).

[5] Thus, for example, the enactment of the GSL program in 1965 was motivated primarily by the desire to achieve significant increases in total student borrowing without immediate Federal budgetary consequences, an objective which was achieved by shifting from the appropriations- dependent NDSL to the privately- capitalized GSL; however, because true differences between the programs in ultimate Federal costs were relatively insignificant, these budgetary "savings" were only temporary, a fact which was not commonly recognized. Similarly, the 1978 Middle Income Student Assistance Act provision eliminating the income ceiling on fully- subsidized GSL participation was enacted without any apparent consideration of the likely consequences for aggregate levels of borrowing and hence for its ultimate

2. FUNCTIONS OF A STUDENT LOAN SYSTEM

As will be discussed further below, the student loan system in the United States has been used for a number of purposes, some of which could have been achieved by other means. On function, however, stands out as a necessary or defining purpose of any student loan system: To provide access to the capital market for the financing of a student's educational investment.

2.1 Providing Capital Market Access

The private capital market and private financial institutions have historically provided access to debt financing of diverse classes of investments, e.g., business plant and equipment, commercial and industrial structures, inventories, consumer durables, private residential structures. On any appreciable scale, however, the private capital market has not provided financing for educational (or, more generally, human capital) investments. The reason for this failure is not hard to identify: In contrast to physical (or financial) investments, for which the asset financed serves as collateral for the loan, collateral which can be siezed and liquidated in the event of default, a human capital investment is embodied in the person of the investor. With Constitutional prohibitions of involuntary servitude and associated bankruptcy laws, this asset is not subject to siezure by the lender, and even if it were, its value might well be significantly reduced simply as a consequence of its siezure.[6]

Federal budgetary impact.

[6] Essentially, the degree and effectiveness of utilization of human capital is subject to the control of the embodying individual. Placed in bondage, he might chose not to effectively exploit his capabilities, and hence the returns to the investment might well fail to materialize.

In this context, the primary objective of governmental involvement in the student loan market must be to compensate for the inability of the human capital investor to collateralize his investment and secure financing on terms comparable to those on which other investments could be financed. Parenthetically, this intervention will be successful only to the extent to which it succeeds in effectively collateralizing human capital, i.e., in creating an obligation on the part of the investor which is generally honored; to fail to achieve this objective will simply convert debt into grant financing.

Insuring access to debt financing is only the first facet of effective collateralization, however. The second is that the temporal profile of debt amortization correspond, at least roughly, to the temporal profile of the gross returns to the investment. Thus, for example, revenue bonds and other similar instruments have evolved to permit debt financing of investments which will generate returns only after a relatively long gestation period, requiring no debt amortization until a stream of returns is realized. In the case of human capital investment, this implies at least offering the option of a rising profile of repayment over time, with no debt amortization over the schooling period.[7]

Even with collateralization, significant risks are associated with many classes of investment. Whether an investment will in fact be profitable far in the future cannot generally not be known with certainty. With reference to nonhuman investments a variety of arrangements by which risks are pooled or

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[7] In contrast to the less educated, for whom earnings reach a plateau early in the career, i.e., for whom the age- earnings profile is relatively flat, the more highly educated generally experience relatively low earnings immediately after leaving school but enjoy rapid increases in earnings as experience is acquired.

shifted have been developed, including equity financing and insurance. Similar risks confront the human capital investor,[8] and efficiency in the human- nonhuman composition of investment would require that comparable opportunities for pooling risks be available to human capital investors.

2.2 Other Possible Functions

In addition to the primary function of providing access to capital markets for the financing of human capital investment, the student loan system in the United States has been utilized for a variety of other purposes. For present purposes these can be briefly listed and discussed:

> Student loans as a mechanism for subsidizing schooling costs. While the primary means by which sub- national governments subsidize schooling has been via direct appropriations to institutions, the Federal government has relied primarily on subsidies to students, utilizing student loans as an important mechanism of subsidization. Currently, the present value of current and future subsidies entailed by new loans exceeds direct Federal grants to students by a substantial margin. A number of questions can be raised concerning the effectiveness of this mechanism of subsidization. For example,

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[8] Two generically different types of risk confront the human capital investor: individual risk and market risk. The latter arises from the fact that educational decisions (whether to attend school, what program of study to pursue, how long to continue schooling, etc.) must be made long in advance of actual entry into the labor market, and over this period significant changes in relative earnings and employment opportunities for different classes of workers may occur. Thus, an investment which appeared to be profitable when an individual was in school may actually turn out to be highly unprofitable. Individual risk, in contrast, arises from uncertainty on the part of the individual concerning his own capabilities relative to those of others making similar educational and occupational choices.

- It relates the subsidy to the individual's willingness to borrow. The student who, for whatever reason, prefers not to borrow but rather, e.g., to work to finance schooling is denied the subsidy available to his borrowing fellow.
- It creates an incentive to borrow unrelated to schooling investment by providing the opportunity for arbitrage. If a person has decided to attend school independently of the availability of subsidized loans, he still has an incentive to borrow and to then invest the proceeds at higher effective rates of interest available in the market.
- Because it artificially inflates the demand for borrowed funds, it creates the need for loan rationing if the costs to the subsidizing authority are not be expand without limit. Thus, income and needs tests and borrowing ceilings are imposed to limit individual access to highly subsidized borrowing. While, on average, this may just counter- balance the effects of subsidies on desired borrowing, in individual cases this will undesirably limit access to borrowing which is necessary if an educational investment is to be undertaken.

On all of these counts it would appear that alternative means of subsidizing schooling (should that be an objective of policy) would be more efficient and equitable.

- Student loans as a mechanism for inducing particular schooling and occupational decisions. This purpose has generally been served by provision for selective, ex post subsidization. Thus, for example, the NDSL loans provided for the loan forgiveness if the borrower subsequently taught in a college or in a designated poverty school district.

Similarly, health- professional loans have been utilized to induce medical students to enter general practice or to practice in "underserved" areas. While these initiatives have usually involved subsidies, there is no reason that this should necessarily be the case; thus, access to unsubsidized credit might be provided only to those making the preferred educational and occupational choices.

Whether involving subsidies or not, this use of a student loan system is also of questionable effectiveness. First, it creates an incentive only for those students who in fact borrow. Second, its effect may be only temporary, with borrowers pursuing favored careers only long enough to reap the benefits of the loan subsidies. Third, it cannot easily be fine- tuned to changing circumstances and policy concerns, as for example, if the supply of teachers in poverty school districts increases significantly between the time that the individual contracts for a loan and the time that he actually embarks on a career. In general, it can be argued that direct subsidies to desired postschooling career choices would constitute a more efficient means by which to achieve these policy objectives.

> Student loans as a device by which to reduce tuition differentials. Several proposals for Federal student loans have had as their objective either (a) inducing reductions in state- local subsidies to public institutions and hence increases in student charges and/or (b) providing for indirect Federal subsidization of the higher charges confronted by students in private institutions. These ends are achieved by devising loan terms which provide greater relative subsidies to borrowers of large amounts, keying the amount an individual may borrow to the level of

tuition and fees he pays.[9]

Providing for loan subsidies which rise more than proportionately with increases in student charges and amounts borrowed might well induce states to reduce subsidies (since students who borrowed would incur only a fraction of the nominal increase in tuition and fees) and/or reduce the effective public- private tuition differential (since the Federal government would subsidize proportionately more heavily the higher borrowing of students in private institutions). However, this would be achieved by shifting a major share of the costs of higher education from state- local governments and students to the Federal government. Moreover, significant increases in all tuition charges, private as well as public, might well be induced; since students would bear a lower share of the cost of any increase in tuition the higher the level of tuition prior to the increase, the incentive to raise tuition, in the first instance, would be greater for generally higher- cost private institutions.[10]

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[9] The most notable example of this type of program is the Tuition Advance Fund (TAF) proposed by John R. Silber, president of Boston University. As demonstrated in Dresch, "Financial and Behavioral Implications of Federal Student Loan Programs and Proposals," op cit., TAF would provide a subsidy equal to about 40 percent of the first $1500 borrowed annually over four years, while a subsidy of over 80 percent would be received for the last $1500 of a total annual loan of $6000.

[10] Recognizing this possibility, the Silber Tuition Advance Fund legislation introduced by Representative Harrington (H.R. 12263) would have placed a ceiling on the allowable rate of tuition increase, restricting it to the rate of increase in the Consumer Price Index. As will be discussed further, this would necessitate an undesirable degree of bureaucratic interference in academic affairs, suggesting the adverse indirect effects which can be exerted by a student loan system.

One can question, first, the propriety of Federal intervention into state- local governmental decisions concerning the degree to which public sector higher education should be subsidized. Second, even granting a Federal interest in the public- private tuition differential, direct subsidies to some or all students in private institutions can be argued to be a more appropriate mechanism for Federal intervention; this would permit, for example, the targetting of subsidies on those students whose choices between public and private institutions would be most significantly affected or for whom the burdens of attendance at a private institution would be greatest. As a general rule, a strong argument can be made that the public- private tuition differential should be dealt with directly on its own merits, rather than indirectly and implicitly through camouflaged subsidy differentials built into Federal student loan programs.

> Student loans as a quasi- beneficiary- tax for the financing of higher education. An argument frequently made for some form of loan program under which repayments would be determined as a function of income is that this would constitute a beneficiary tax subject to which those reaping larger benefits (higher incomes) would more heavily contribute. The most obvious flaw in this argument is that it would exempt from the tax those who were sufficiently well- endowed to avoid the necessity of borrowing, i.e., for these individuals the current tuition charge would represent a lump- sum tax. Thus, of two students who subsequently achieve identical high levels of earnings, the one who was forced to borrow must pay an amount sufficient to subsidize the schooling of his lower earning fellow borrower, while the nonborrower avoids any

differential contribution.[11]

Other secondary functions of student loan programs have been suggested and could be imagined. For example, a loan program could be utilized to punish draft- evaders (simply by denying them access to funds), to reward superior academic performance (by providing performance- related subsidies), ... However, the foregoing represent the most important classes of subsidiary functions for which loan programs have been utilized in the United States of the last 25 years. While it may not be possible to reach a globally negative conclusion concerning these secondary functions, a strong presupposition that loan programs represent an inefficient method by which to achieve the stated objectives does seem justified. More seriously, as indicated above and as will be discussed further below, inconsistencies between the primary and secondary purposes of the student loan system appear to be almost inevitable. Providing access to to the capital market for human capital investment on nondiscriminatory terms vis- a- vis other investment may well be sacrificed when other objectives become significant.

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[11] This case should be distinguished from one in which conventional borrowing is available as an option, as well as an income- contingent- repayment option. If two students voluntarily elect the later, the one who subsequently has high earnings pays more because, as a student, he valued the insurance implicit in the guarantee that, should his earnings be low, his payments would also be low. Rather than one borrower "subsidizing" another, the one with high income pays a net insurance premium while the low income borrower receives a net insurance benefit.

3. DIMENSIONS OF PROGRAMMATIC CHOICE

The remainder of this paper is devoted to a brief outline of the major dimensions of programmatic choice in the structuring of a student loan system. The dimensions examined include:

> Legal treatment of the student's obligation.

> Institutional structure and administrative arrangements.

> Source of capitalization.

> Locus of risk- bearing.

> Terms of the student's obligation and of the lender's asset.

> Degree and mechanism of subsidization.

> Rationing criteria and other individual/institutional constraints.

As will become evident these dimensions of programmatic choice are not independent. Rather, decisions in one dimension will have important implications for decisions in others. Thus, it is difficult to discuss the available options in any one dimension without taking into account the possible options in other dimensions. This is especially the case with reference to the degree of subsidization, which is effectively determined by decisions made in the preceeding five dimensions. Thus, if the first five are considered independent dimensions, the sixth is dependent. Finally, the significance of the seventh will depend upon the effective degree of subsidization, since rationing and other constraints will become necessary primarily as a result of probable behavioral responses to relatively high degrees of subsidization.

3.1 Legal Treatment of the Student's Obligation

As has been discussed, the primary barrier to capital market access for the financing of educational investment is the Constitutional stricture against involuntary servitude, denying the individual the right to offer his human capital as collateral. As a result, a creditor has no effective recourse in the event of default.

In fact, the situation confronting a potential lender is even more serious than the simple lack of collateral would suggest. Collateral is of value to the lender only in the event of default. Thus, if the returns to the representative individual's human capital investment do materialize, and if, under these circumstances, the borrower is expected to requite his obligation, then there would appear to be little risk to the lender associated with the absence of effective, repossessible collateral. However, if the borrower, although able to meet the terms of his obligation, purposefully choses to default, and if there are no adverse consequences for the borrower of that election, then the lender is almost assured of loss.[12] Broadly speaking, this

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[12] This assumes that, in the absence of a legally enforceable obligation, a borrower would be expected to default. Clearly, this assumption ignores nonlegal motivations and compulsions to fulfill the obligation, most notably what is commonly characterized as "moral suasion." Even if, because of the force of moral suasion, some borrowers would attempt to meet their obligations under any circumstances, it would be expected that the proportion of individuals doing so in any situation would be a positive function of the intensiveness and extensiveness of the relationship between the borrower and lender. If the relationship is solely one of borrower and lender, totally devoid of any other connection, then only a very general concept of moral behavior would motivate fulfillment of the obligation. If, however, the borrower- lender relationship is conjoined with, e.g., a friendship or familial relationship, then a general conception of moral behavior is reinforced by recognition of the obligations and expectations associated with these other relationships. Thus, even in the absence of governmental intervention, many students will enjoy access to the capital market for the financing of educational investments, but this access will be provided through the family (or other personally binding social entity), with the family either directly extending credit or, for portfolio reasons, offering other, repossessable collateral for an obligation to a third

is the situation created by contemporary bankruptcy law. On completing his schooling the representative student has few if any assets. Under these circumstances, there is little if any cost associated with a declaration of bankruptcy, the consequence of which is the permanent termination of all outstanding financial obligations. While all borrowers might not elect to take advantage of this legal opportunity, for moral or ethical reasons, it is clear that few lenders would be prepared to extend credit when the borrower is confronted by such extreme incentives to default.

Although statutory changes cannot evade the Constitutional prohibition of involuntary servitude, which would be required for full collateralization of human capital, changes in bankruptcy law can significantly strengthen the legal rights of lenders and obligations of borrowers. Whether default is "willful" (due to bad faith on the part of the borrower) or due to adverse financial circumstances of the borrower, the borrower's ability to repay in the future is generally unrelated to his current financial status. Thus, there is no reason in principle that his liability to the lender should be fully (or even partially) dischargeable via bankruptcy.

Two possibilities can be suggested here. The least radical would permit the discharge of past- due obligations via bankruptcy but would continue in force future obligations. More radically, the entire obligation could be continued into the future (with accrual and compounding of interest on

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party. Obviously, this is possible only if (a) the family possesses sufficient wealth and (b) the force of moral suasion is sufficently strong as to insure the intrafamily lender or guarantor of the good- faith intention of the borrower to meet the terms of the obligation. Thus, at a point in time access to capital will vary with familial wealth and with parental trust of the child. Over time, social changes in parent- child relationships may alter the expectations of the parents concerning the good faith of the child, reducing parental willingness to provide access to capital, even if sufficient wealth is possessed.

defaulted payments).[13] Current law provides for a limited form of the second, specifying that Federally- insured student loans cannot be discharged via bankruptcy in the first five years after the borrower leaves school. Because the average student has begun to acquire other assets over this period, even a limitation of five years is sufficient to greatly reduce the benefits associated with bankruptcy. However, a reasonable argument can be made for a generalization of this provision.[14]

A general foreclosure of bankruptcy as a means by which to terminate a student loan obligation would have pervasive benefits: In the first instance, it would greatly reduce expected rates of default and ultimate loss. In fact, expected losses would be limited to those cases in which the borrower never succeeds in achieving earnings above a bare subsistence level (rare in the case of the highly educated) or in which the borrower succeeds in placing his assets beyond the reach of the creditor (the only obvious means of which would be to leave the country). Given significant reductions in default losses,

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[13] The former alternative was embraced in the Tuition Postponement Option developed by Yale University in the early 1970s, although the legal basis for the position was somewhat unique. Because payments were to be determined as a percentage of income, it was the opinion of counsel that future obligations could not be discharged through bankruptcy, on grounds that the future obligation was indeterminate, contingent on actual income in the future. If income were zero, then the future obligation would be low (equal to a fixed minimum payment of principal). In other words, it was argued that only a noncontingent future obligation could be discharged through bankruptcy.

[14] One generalization for which a strong argument could be made would broaden the class of obligations not subject to discharge through bankruptcy to include any unsecured obligation. To fail to extend this option to nonstudents on a nondiscriminatory basis would simply magnify current public policy biases in favor of education and against those for whom education is not a desirable human capital investment. This would discriminate especially against those who would benefit most from greater access to nonschooling modes of human capital formation, reinforcing already serious barriers to these forms of human capital investment, such as minimum wage laws, public or publically- sanctioned and enforced licensing and certification requirements, etc.

costs to the lender or guarantor would be significantly reduced. To the degree to which losses are borne by the lender, the reduction in loss would imply corresponding reductions in interest rates (or default insurance premia) charged on student loans. This would be reinforced by probably significant reductions in collection and enforcement costs.

3.2 Institutional Structure and Administrative Arrangements

A number of alternative institutionalizations of a student loan system can be imagined. This issue can be decomposed into two components, the first of which is concerned with the central institutional structure, while the second is concerned with arrangements for day- to- day administration (essentially devoted to three tasks: loan origination, monitoring and collection). With reference to the basic institutionalization, a range of alternatives, differing in various subsidiary dimensions, can be imagined. The principle dimension of variation involves public versus private institutionalization.

3.2.1 Private Institutionalization

At one extreme, bankruptcy laws could be modified along the lines suggested above, and the private sector could then be permitted to develop any student loan options for which there was a supply and demand. While it is not possible ex ante to specify precisely what private institutions might become inolved in student lending, several likely developments can be identified.

It is likely that the lead in the student loan domain would be taken not by the commercial banking sector but rather by large institutional investors, e.g., life insurance companies and pension funds. The principle activity of commercial banks, short- term lending, is conducted on terms which are

incompatible with the requirements of student borrowers (as suggested above and will be discussed further below). Major institutional investors have experience with long- term debt incorporating interest accrual and compounding, profiles of amortization in which payments are not constant over time, etc.

While it is likely that institutional investors would become the central actors in a private system of student loans, they are not ideally situated for day- to- day administration. Thus, the functions of loan origination, borrower monitoring and collection would be contracted to various intermediaries. For example, one can imagine commercial banks acting representatives in loan origination, just as, e.g., they now act as representatives of the major traveller's check issuers. The other obvious possibility for loan origination would be colleges and universities themselves, also acting as agents for the major sponsoring institutions.

While borrower monitoring (prior to entry into repayment status) and collection might also be contracted to commercial banks and/or educational institutions, nationwide collection agencies would appear to have a comparative advantage in these tasks, especially in light of the high degree of geographic mobility exhibited by recent students (who go on to graduate or professional school, move in response to employment opportunities, etc.).

It is important to observe here that a private system would probably develop effective arrangements for loan consolidation. Either a student would be extended a formal or informal line of credit by his lender, covering whatever level of schooling he ultimately elected and providing for consolidated repayment of his ultimate, accumulated indebtedness; or provision for prepayment would be included in all loans, and the major lender, at the

point of repayment initiation, would prepay outstanding loans to all other creditors, consolidating the student's obligations, and determine a schedule of consolitated amortization.[15]

Other institutionalizations of a private student loan system can certainly be imagined. One of the more likely possibilities is that colleges and universities would take on the primary role ascribed previously to major institutional investors. This might be done by individual institutions or by consortia of institutions, and in either case the major corporate (e.g., auto manufacturer) finance companies provide a partial model. In fact, it is likely that a diverse mix of institutions would become involved in student lending, with the various types of institutions differing in relative importance in different parts of the system.

3.2.2 Governmental Institutionalization

At the other extreme, the student loan system could be made the domain of a single governmental monopoly [a "national student loan bank (NSLB)," for want of a better term], whether a component of an executive- branch agency (e.g., division of the Department of Education), an independent governmental agency or a quasigovernmental body. This agency either could create its own subsidiary organizations for day- to- day administration or could contract with other governmental agencies. Thus, origination, monitoring and collection might be contracted to the Internal Revenue Service or the Social Security Administration, either of which could provide decentralized (localized) operations conjoined with centralized information systems.

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[15] This is in contrast to the current system, under which a borrower may be required to make payments simultaneously to an indefinite number of private lenders on GSL loans and to an indefinite number of colleges and universities on NDSL loans.

3.2.3 Mixed Governmental/Private Systems

Between these extremes a wide variety of alternatives and permutations can be suggested. The most important of these include the following:

> A governmental agency could be created to guarantee (on some unspecified terms) some or all student loans made by a predominantly private system. This is the function of the Department of Education's Office of Guaranteed Student Loans under the GSL program.

> A public or quasipublic secondary market institution could be conjoined with an otherwise private system, serving as a source of liquidity for private lenders. This is essentially the role of the National Student Loan Marketing Association (Sallie Mae) in the current GSL system. Chartered by the Federal government, Sallie Mae buys or warehouses student loan paper originated by eligible GSL lenders, primarily commercial banks and other retail financial institutions (savings banks, credit unions, etc.).

> Governmental funds, either explicitly appropriated or obtained through off- budget borrowing, could be channeled to private institutions for relending to students. In the NDSL program, Federal appropriations are channeled to colleges and universities, subject to the stipulation that the Federal funds constitute not more than 90 percent of th amount loaned to students, with the remaining 10 percent constituting institutional matching of Federal funds. In the GSL program Sallie Mae has obtained much of the capital required for its purchasing and warehousing of privately- originated loans by off- budget borrowing through the Treasury Department's Federal Financing Bank.[16]

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[16] Thus, Sallie Mae is in the enviable position of purchasing assets (stuient loans) guaranteed by the Federal government, of receiving an interest

> A less centralized but still predominantly governmental system might utilize state agencies for some or all functions of the NSLB. For example, in the current system state guarantee agencies perform some or all of the following functions: guaranteeing loans which are then reguaranteed by the Federal government, purchasing or warehousing loans originated by private lenders, originating loans on their own accounts, contracting for or providing day- to- day administration (monitoring and collection). Further variations of these types could be imagined.

> A predominantly private system could be given access to governmental agencies (the Internal Revenue Service or the Social Security Administration) to originate, monitor and/or collect loans under contracts with the private lenders.

While it is not possible to prescribe, in isolation from other issues, the "most effective" institutionalization of the student loan system, one observation of particular relevance can be made: The postsecondary education system and the students engaged in it are extremely diverse, and it would be expected that this diversity would also be reflected in the diversity of demands dWhich they place on the capital market and in the most effective terms on which those diverse demands can be met. In this situation a strong presumption can be made that a relatively highly decentralized system, whether public or private, would be more likely to respond flexibly and sensitively to the very different circumstances and requirements of different groups of

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return (including the Federal interest allowance) which is designed to render the assets profitable to banks which must acquire funds in the private financial market, and of financing the acquisition of these guaranteed, high- return assets by issuing debt which is, de facto, also guaranteed by the Federal government (and hence of confronting singificantly lower interest rates on its borrowing than would a private bank).

students.

Clearly, it is difficult to discuss issues of institutionalization without simultaneously considering the functions which are performed by the various institutions, issues which are discussed more systematically in the following. Thus, questions of institutionalization will recur in the discussion of such issues as sources of capitalization and locus of risk bearing. However, the foregoing gives a brief overview of the subject of institutionalization, indicately the extremely wide range of alternatives which are available.

Before leaving the subject of institutionalization, it is important to recognize that, regardless of the mix of public and private agencies involved in the student loan system, the freedom of action of these agencies can be more or less limited by statutory constraints. Thus, an entirely private system might be subjected to very narrowly written legislation, fully determining all aspects of its operations. While the same could be true of a highly centralized public system, a national student loan bank could be given an extremely high degree of latitude in the formulation of its activities. Thus, the degree of public institutionalization is not necessarily related to the degree of statutory control.

3.3 Sources of Capitalization

The significance of this issue derives from its implications for the cost of capital to the student loan system and for the elasticity of capital supply.

Two apparently quite different sources of capital can be identified: private and governmental. While these appear superficially to be quite different in their implications for a student loan system, actual differences are of relatively little significance.

3.3.1 Private Capitalization

The sources and instrumentalities of possible private capitalization are virtually infinite. A diverse group of financial intermediaries might well be involved, ranging from commercial banks and other retail financial institutions to major institutional investors (including insurance companies, pension funds, mutual funds, etc.). Depending on the institutional source, capital could be provided in the form of short- or long- term debt or equity participation.

It is difficult a priori to prescribe the optimal configuration of capital supply in a privately capitalized system and the capital costs which such a system would entail, but some generalizations are possible:

> Whatever the form of capitalization, private capital supply will be responsive to the level of demand for student loans if (and only if) the rate of return to student loans (or to a student loan portfolio) is permitted to vary with market conditions.

> The cost of capital and the optimal mix of equity and debt financing will depend primarily on the risks perceived to be associated with the student loan portfolio. If, because of the legal status of the student's obligation or because of governmental guarantees, the risks are perceived to be quite low, then the supply of debt financing should be highly elastic at interest rates comparable to those which can be obtained on other comparably low- risk assets. The higher the perceived degree of risk, the higher will be the required degree of equity participation, participation which will be forthcoming only if the expected return is correspondingly increased.

> The choice between long- and short- term debt financing will depend primarily on the terms on which student loans are made. If these loans provide for interest rates which vary over the life of the loan with some indicator of market interest rates (e.g., the Treasury bill rate or the rate on prime commercial paper), then short term debt will be the likely form of capital supply. In contrast, if interest rates on student loans are fixed for the life of the loan at the time of origination, long- term debt will be a more desirable form of capital supply.[17]

3.3.2 Governmental Capitalization

In the contemporary U.S. context, governmental capital supply may take one of three basic forms: direct (on- budget) Federal appropriations, direct or indirect off- budget Federal borrowing, or state- local issuance of tax-exempt debt. Substantial legislative and administrative attention has been devoted to the mix of these sources in the student loan system, suggesting that the choice is of some significance. In fact, closer examination suggests that the issues are generally superficial, specifically, that they are of narrowly budgetary or accounting significance rather than of economic significance.

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[17] Note that, as used in this context, "interest rates on student loans" refer to the rates paid to lenders, which may not be identical to the rates paid by student borrowers. Thus, the current GSL system provides for a fixed rate (nine percent) charged to students, but the rate received by the lender is equal to the student rate plus a "Federal interest allowance" (defined as the three- month Treasury bill rate minus three percentage points). From the vantage point of the student the rate is fixed, but for the lender the rate varies with conditions in the financial markets, as reflected in the Treasury bill rate.

The principle argument for governmental financing in general, and also the debate over the precise form which this financing should take, has centered on the ostensible issue of the cost of capitalizing the student loan system. However, the actual focus of attention has been not on the cost of capital (either to the Federal government, to all levels of government combined, or to the economy at large) but on immediate budgetary implications. On inspection, however, these can be demonstrated to be virtually unrelated. Consider the alternatives which have been identified:

> Appropriations. In the year in which funds are obligated and loans are made, a dollar of loan financed via appropriations appears to have a Federal cost of one dollar. With reference to the pure cost of capital, however, the cost is the interest which must be paid on a dollar of additional Federal borrowing (or the foregone interest savings which would have been achieved had Federal debt been reduced by one dollar).

> Off- budget, direct or indirect Federal borrowing. In this instance there appears to be no immediate Federal budgetary consequence of capitalizing student loans. The cost of capital, however, is the interest rate which must be paid on the off- budget borrowing. As this device is used by Sallie Mae, borrowing through he Federal Financing Bank, the interest rate is approximately one- half point above the rate on comparable direct Federal borrowing.

> State- local tax- exempt debt issues. Again, there is no explicit Federal budgetary impact of student loan capitalization. Implicitly, however, the exemption of interest income from Federal income taxes results in a significant Federal cost, in the form of a "tax expenditure" or "tax subsidy." Roughly speaking, interest rates on tax- exempt debt

issues tend to be about two- thirds the rates on other comparable but non- tax- exempt debt issues. Assuming that the average purchaser of a tax- exempt issue is subject to a 50 percent marginal Federal income tax rate (an assumption which is approximately correct), this implies a loss to the Federal government greater than the savings to state- local governments. For example, assume a non- tax- exempt interest rate of 15 percent, implying a tax- exempt rate of 10 percent. The tax- exemption costs the Federal government one- half of the 15 percent non- exempt interest rate, or 7.5 percent. However, state- local borrowers save only five percent, implying a net loss to all governments combined of 2.5 percent, i.e., the Federal government could deny tax- exempt status to state- local debt issues, provide a subsidy equal to one- third of subsequent state- local interest costs, and still have a surplus equal to one- third of the additional tax revenue. Under the assumed circumstances the apparent cost of capital is ten percent, but the true cost (taking into account the lost Federal tax revenues) is 17.5 percent.

In short, while immediate Federal budgetary impacts of the alternative forms of governmental financing are substantial, this immediate budgetary impact provides no indication of the true cost of capital to the student loan system. Furthermore, even the effective governmental (Federal and state-local) interest cost, as derived above, can be argued to be an inappropriate rate for purposes of assessment of the true interest cost of capital devoted to a student loan system. The economic "opportunity cost" of capital devoted to a student loan system is the return to that private investment which is foregone as a result of the flow of capital into student loans. If (as can be reasonably assumed) the return at the margin to private investment is

indicated by the interest rate confronted by the private investor, then the interest rate on Federal obligations (lower than the rates paid by private investors due to the security of Federal obligations) understates the opportunity costs of capital shifted from other investments to student loans, and it is this opportunity cost which is the true cost of capital to the student loan system. Continuing the example developed above with reference to state- local tax- exempt debt, the 15 percent which would be paid on state- local issues if they were not tax- exempt is probably approximately equal to the rate which would be paid on very secure (low- risk) private debt, and this provides a reasonable lower- bound estimate of the true economic cost of capital to the student loan system.

It should be noted here that the true governmental (as opposed to economic) cost of capital to the student loan system does not correspond to the costs to the Federal government of that system. As used here, the true cost of capital effectively refers to the rate of return on student loans which would have to be realized if there were to be real impact of the loans on consolidated government budgets, taking into account both visible and invisible budgetary impacts. Thus, for example, if capital were aquired by state- local issues of tax- exempt debt, at an interest cost of 10 percent (continuing the example developed above), and if the state- local agencies reloaned to students at an interest rate of 17.5 percent, then (ignoring other costs of the loan program) the loan program would have no impact on consolidated (Federal, state and local) government budgets. In short, as will be discussed further, the cost of governmentally- supplied capital must be distinguished from the costs of governmental subsidies to a student loan system.

Differences in the responsiveness of capital supply to the demand for funds are more significant that the apparent differences in capital cost associated with the alternative forms of governmental capital supply. In general, either off- budget Federal borrowing or state- local borrowing would provide for a more responsive supply of capital to the system. In principle, legislative action could be very responsive to variations in demands for student loans; in fact, this is unlikely to be the case. More importantly, the governmental appropriations process, even if responsive to demand, is inappropriate to the determination of the rate at which capital should flow into the system. Assume, for the moment, that student loans are unsubsidized, i.e., the rate of return on the program equals the cost of capital to the government and the loan system imposes no net costs on the government (although, as noted previously, it does impose costs on the economy in the form of foregone returns to other investments which are not undertaken). But, if there are no governmental costs, why should the rate of student borrowing be an appropriations issue? Essentially, the appropriations process involves (at least in theory) a balancing of the benefits of expenditure on one governmental program against the benefits of expenditure on another program or against the loss of private benefits occasioned by the increase in taxes required to finance the governmental program. If there are no costs of a governmental action, then the issue of trade- offs addressed in the appropriations process does not arise.

This argument, clearly, does not apply when student loans are subsidized by government. The degree of subsidization is an important issue which should be addressed in the appropriations process. The rate of flow of capital into the student loan system is relevant to the appropriations process only

because, in conjunction with the level of subsidy per unit (dollar) of lending, it determines the aggregate cost to the government of the student loan system. Thus, the primary legislative issue should be the degree to which loans are to be subsidized, to which the issue of the level at which the system is to be capitalized is only derivatively relevant.

3.3.3 Private versus Governmental Capitalization

In summary, true economic costs of capital will not vary with the choice of governmental versus private capital supply, although nominal costs (direct and indirect) of a governmentally financed system will be slightly lower.[18] If the system is to be governmentally capitalized, off- budget Federal borrowing appears to be preferrable to the alternatives of Federal appropriations or state- local tax- exempt debt. The former confuses the appropriations processes by mixing the issues of capital supply and of student loan subsidization. The latter results in excessive nominal costs to governments as a group.[19]

Private capitalization would be clearly appropriate for an unsubsidized student loan system not subject to narrow statutory constraints. As will be discussed with reference to the terms of student loan obligations, constraints

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[18] The interest rate differential between off- budget Federal borrowing and the rate on high- grade utility debt, on the order of one to two percentage points, provides an indication of the lower bound on the differential which would confront the student loan system. As noted, the actual differential would be determined by the degree of risk associated with a student loan portfolio.

[19] Note that the nominal costs (direct and indirect) of tax- exempt debt finance probably exceed the true economic costs of capital to the system, simply because the Federal tax loss less the state- local interest savings exceeds the differential between private and Federal interest rates, where private interest rates (e.g., utility bond rates) provide a measure of the economic cost of funds to a low- risk student loan system.

on the system which prevent rates of return on student loan portfolios to adapt quickly to changes in financial markets will lead to sudden wide swings in private capital supply. Thus, the greater the constraints the less appropriate will be reliance on private capital. However, it should be noted that similar constraints in a publically capitalized system will lead to wide swings in the degree to which student loans are subsidized. That is, the difficulties created by statutorially- imposed rigidities are not avoided by recourse to governmental capitalization, but simply take a different form.

Private capitalization is not necessarily inappropriate in a more or less highly subsidized system. As long as the return on the lender's student loan portfolio (not necessarily related to the interest rate imposed on the borrowing student's obligation) is permitted to vary with financial market conditions (so as to remain competitive with returns to other investments), private capitalization will provide an elastic, repsonsive flow of capital to the student loan system. And, as has been discussed, the true economic cost of capital is unrelated to the choice of governmental versus private capitalization.

One difficulty may be encountered in the attempt to privately capitalize a subsidized, statutorially- constrained system: It may be difficult to determine whether or not an excess supply of capital exists. Thus, assume (as is in fact the case in the GSL program) that the interest rate paid by stuient borrowers is fixed and that the return to the lender's student loan portfolio is adapted to changing credit market conditions via a variable Federal interest allowance keyed to a flexible measure of returns to other investments. How is the Federal government to determine the "correct" supplement to the student interest rate (i.e., that supplement required to

induce a supply of private capital just equal to the demand for loans at the fixed student interest rate)? If the supplement is too low, this will be revealed by the formation of queues of would- be borrowers at the lending window, many of whom will be turned away unserved. In contrast, a supplement which is excessive will not be easily observed. Lenders will receive returns greater than are required to induce the actually observed rate of lending to students, but this will be manifested only in the profits of the lender, where the excessive return will be difficult if not impossible to identify.

In the long term one would expect that an excessive lender return to student loans would be manifested in strong competition among lenders for the limited number of student borrowers, with the appearance, e.g., of widespread advertising, cash payments (rebates or kickbacks) to borrowers. However, while this might eventually be the case, it ignores the fact that the relevant parts of the financial system are highly regulated and may be capable of implicit collusion designed to limit competition. Thus, excessive profits might persist for long periods without inducing overt competition which would reveal the existence of the excessive returns.[20]

The strongest argument <u>for</u> private capitalization of a highly subsidized system is that it will force greater attention on the true degree to which the system is subsidized. This results from the fact that it will be more

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[20] As will be discussed, competition is more likely to occur when it is not forced to take sanctioned or illegal forms. Thus, given a formula for the Federal interest allowance, competition which brings the total return to student loans into line with returns to alternative, comparably risky investments is more likely if the rate paid by the student borrower is not statutorially fixed but is subject to negotiation than if the competition for borrowers must take the form of illegal kickbacks by the lender to the borrower. While a removal of any constraint on the rate negotiated between the borrower and the lender would be most desirable, at the least provision should be made for negotiation of the rate subject to some specified ceiling.

difficult to camouflage current subidies by converting them into future ("unanticipated") capital losses. Even with private capitalization, however, future contingent and noncontingent subsidies may well not be recognized at the time a loan is made and the Federal government becomes liable under its terms. But, it is precisely at the point of origination that the liability of the government, present and future, should be recognized.[21]

A final issue which should be addressed briefly concerns the frequently confused arguments concerning the relative impacts of alternative forms of student loan capitalization on private capital markets and hence on the availability of capital to other private borrowers. Most briefly stated, any mechanism of capitalizing student loans serves to increase the aggregate demand for capital. Thus, the effective impact of off- budget Federal borrowing is essentially identical to private borrowing to finance a student loan system, and the same is true with reference to appropriated capital. Establishment of a Federally- sponsored secondary- market institution such as Sallie Mae, for example, does nothing to increase the flow of capital to student loans which does not have the simultaneous effect of reducing other capital flows, directly or indirectly. While the retail banking sector may directly reduce the claims of its student loan activity on its other lending, this will be offset by the redirection of other investment to the purchase of

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[21] A future obligation of the Federal government under the terms of a student loan agreement has a specifiable present expected value at the time the government becomes obligated. This present value, conceptually, is a cost of current, not future, government activity and in principle should be recognized in the current budget. Thus, a future Congress cannot make decisions concerning trade- offs between subsidy commitments on past student loans and other Federal expenditures or tax reductions. That decision can only be made by the Congress which authorizes the original lending, but that Congress will consider the trade- offs only if the present value of the future obligations is recognized as a current expenditure.

secondary market instruments. A secondary market institution may make student lending more immediately profitable to lenders,[22] thus inducing an increase in student lending activity, but it cannot increase the aggregate supply of capital to the economy.[23] Thus, a student loan system will inevitably result in a decline in the supply of capital for other purposes, hence the importance of recognizing the true economic cost of capital to the program and of determining that the benefits of the program are at least equal to this cost (whether the cost is borne by the borrowing student or by a subsidizing government).[24]

3.4 Locus of Risk Bearing

Two fundamentally different types of risks must be allocated among the participants in a loan system. There is, first, what might be characterized as the "capital risk," i.e., the risk that the borrower will not meet the terms of his obligation. Secondly, there is a risk of intervening changes in the economy which will influence the real rate of return to a student loan

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[22] For example, a lender can sell a loan to Sallie Mae when it goes into repayment status, the point at which it becomes more costly to hold.

[23] This assumes, of course, a monetary policy which does not attempt to directly offset the effects on other borrowers of increases in student borrowing. Such a policy, were it to be pursued, would be as feasible with private as with public capitalization of the student loan system, however. It is also implicitly assumed here that the claims of the student loan system are not offset, in part, by increases in rates of savings induced by the positive impact of the student loan system on interest rates. This latter effect, however, would be expected to be of minor quantitative importance.

[24] It should be noted that, when the cost is fully borne by the borrower, the very fact that he is willing to bear the cost is *prima facie* evidence that the benefits derived from student loans exceed the benefits which would have been associated with alternative investments. It is only when governmental subsidies become significant that the question of relative benefits must be faced as an explicit public policy issue.

portfolio, or equivalently, the real rate of interest incurred by the borrower on his obligation; this might be characterized as an "interest- rate/return or financial risk." In the specific case of student loans each of these risks must be borne by either (1) the borrower, (2) the lender, (3) an agency of government, or (4) any one of a number of other "fourth parties" (parents, colleges or universities, etc.). Primary attention in this discussion will focus on the first three, although passing reference will be made to other possible risk- bearers. Consider, first, the issue of capital risk.

3.4.1 Capital Risk

In any credit transaction the capital risk, i.e., the risk that a borrower will not meet the terms of his obligation, might be dealt with in one of three ways. First, the lender might bear the risk. Second, the lender might arrange to transfer this risk to a third party or require that the borrower do so. Third, action might be taken to reduce the risk itself. The latter constitutes an assignment of risk in the sense that it raises the "risk" to the borrower that he will be held to the terms of his obligation.

In the absence of external constraints mutual agreement among the parties involved would be expected to lead to an optimal assignment of risk. If the lender is to bear some stated risk (i.e., probability of borrower default), he will require compensation at some specified rate (i.e., increment of return to the investment, or "risk premium"). Alternatively, if some third party would be willing to bear the risk at a lower price than that which would compensate the lender, then either (a) the lender will compensate the third party for taking on the risk and pass the cost of this "insurance" on to the lender (at an interest rate between a riskless rate and the rate which the lender would

require in the absence of insurance) or (b) the borrower will compensate a third party for indemnifying the lender against loss (receiving the benefit of this indemnification in the form of a lower interest rate). Finally, the borrower might be induced to accept some action intended to reduce the likelihood of his default, e.g., authorize the lender to liquidate him in the event that he actually did default, receiving the benefit of the presumably reduced default probability in the form of a lower interest rate. Which of these devices would in fact be employed would depend on the degree of compensation for risk bearing which would be demanded by each of the potentially involved parties. For any degree of reduction in risk, the party most willing to bear risk, i.e., requiring the least compensation, would be elected to bear the risk.

Government becomes involved in any credit transaction because, to a significant extent, governmental action determines the ex ante positions of all of the potential participants in the transaction and places contraints of the degree to which (and on the terms on which) the initially allocated risks can be transfered to other parties more willing to bear the risk. Thus, the terms of bankruptcy law determine the range of circumstances under which a borrower can legally evade his obligation. Unless government itself agrees to bear some part of the risk, any government action which reduces the risk to one party necessarily raises the risk to the other.

Thus, the first issue with reference to the allocation of the risks associated with student loans is what the relative initial positions of the participants should be and what restrictions should be placed on private parties' rights to transfer risks. As indicated above in the discussion of the legal treatment of the obligation, existing law is strongly biased in

favor of the borrower, i.e., places an excessive share of the risk associated with unsecured (uncollateralized) debt on the lender and severely restricts opportunities for the contractual transfer of risk among the parties. Superficially, this might appear to be quite favorable to the lender. However, if the consequence is that the compensation required by the lender or any third party as an inducement to bear the risk is so high that the borrower is unable or unwilling to pay the price, then the transaction may be precluded. In this situation it might well be the case that the borrower himself would prefer an initial distribution and restrictions on risk exchange less skewed (nominally) in his favor.

Although not stated in precisely these terms, the foregoing argument provides the underlying justfication for the previously stated proposal for a weakening of bankruptcy protections available to unsecured borrowers. Even the borrowers themselves may be made better off: Improved access to credit is worth more than the loss of legally sanctioned options for evasion of the liability.[25]

Even with these changes in bankruptcy law, the residual risks to the lender might be sufficiently high that the magnitude of the risk premium would deter many potential borrowers. Those with sufficiently wealthy family or friends might be able to provide cosignatories with collateralizable assets, but others would be led not to borrow and hence to reduce their educational investments.

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[25] The active demand for credit extended by loan sharks and other illegal lenders, as a condition for dealing with whom the borrower sacrifices substantially more than bankruptcy protections (e.g., his protection against physical assault or summary execution), is *prima facie* evidence of the perception of many borrowers that they are in fact better off without such legal protections as bankruptcy law.

At this point, one of two possible grounds for further governmental action might be offered. First, the capacity of government to enforce the terms of the obligation on the borrower might be greater than that of the private lender, in which case the government could offer to use its powers of enforcement, an action which need not involve either unreimbursed costs to the government or a governmental assumption of any residual risk of loss. Second, government might conclude that the reduction in borrowing would imply a socially nonoptimal reduction in educational investment and intervene to encourage greater investment. In actuality, the Federal government has relied on both justifications, entering into the transaction as a guarantor of the student's obligation.[26]

Several observations can be made concerning actual Federal action in this domain:

> Federal assumption of the risk of default has preceeded obvious and feasible actions which would reduce default risk. Specifically, the legal treatment of the student's obligation could easily be greatly improved, significantly reducing default risk, especially default risk reflecting bad faith on the part of the borrower.

> The relative efficiency of alternatives to direct Federal assumption of the entire default risk has not been assessed, although this would be required if the desirability of this assumption of risk were to be demonstrated. Thus, direct subsidies to students or provision of reimbursed Federal contract enforcement services to lenders might lead to

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[26] Note that the second objective of governmental action could be achieved by means other than intrusion into the credit transaction. Thus, government could offer subsidies to schooling which would be sufficient to induce a potential student to borrow even at high rates or to otherwise acquire the residual funds to permit the schooling investment.

the desired result at lesser (or even no) cost to the Federal government. The desirable concomitants of Federal assumption of the default risk have not been adequately recognized. For example, if this Federal action is not to induce significant rates of default (constituting a large subsidy to borrowers who default), adequate provision must be made for the government to attempt to enforce defaulted obligations. As a general statement, this has not been done. As a result, significant numbers of students may be induced to borrow with the intention of defaulting. Even if this is not the case, unenforced obligations represent windfall gains to those who default, resulting in what many would consider an inequitable distribution of Federal subsidies (financed by the general public).

3.4.2 Financial Risk

Turning to the risks associated with unanticipated changes in financial markets and other economic phenomena, a somewhat different analysis is required. In contrast to default risk, a reduction in risks borne by one party need not necessarily imply (although it may imply) an increase in the risks borne by the other party. Essentially, this risk arises from future movements in interest rates.

Assume that all terms of the student's obligation, including the interest rate, are determined at the time of borrowing. Should general levels of interest rates (and, in most cases, of rates of inflation and of nominal income growth) rise, the borrower would reap a windfall gain, while the lender (or the lender's capital supplier) would incur a loss. Conversely, should general levels of interest rates (inflation and nominal income growth) decline

the reverse would occur. If both lenders and borrowers were indifferent to such symmetrical risks of gain and loss, then this risk would have no consequences. If, however, lenders more heavily weight a rise than a decline in interest rates, while borrowers more heavily weight a decline than a rise, then levels of borrowing (and of schooling investment) will be nonoptimally reduced.

The obvious solution to this problem is to provide for an obligation the terms of which respond to unanticipated changes in financial markets and in the economy at large. Thus, for example, it would be quite feasible to vary the interest rat on the student's obligation with some general measure of interest rates, as is now not uncommon with flexible- rate home mortgages. The lender and borrower would then both be assured that, should interest rates change adversely, they would not be forced to suffer the consequences. Since each, by assumption, places a greater weight on a negative than on a positive change, this action would serve to make both better off than they would have been with a fixed rate instrument.

In actuality, the Federal government has intervened to protect the borrower from an adverse movement without depriving him of the potential benefits of a favorable movement in interest rates while presenting the lender with an instrument which moves symmetrically with other interest rates. The borrower's interest rate, that is, has been set at a level which is unlikely, over the term of his obligation, to be above generally prevailing interest rates. For the lender the Federal government has provided an interest allowance which moves with general levels of interest rates. Thus, the borrower is unambiguously better off than he would be were he subjected to an unsubsidized interest rate which varied with market conditions; at most, the

degree of subsidization associated with his obligation may decline if interest rates generally decline. Similarly, the lender is unambiguously better off, because (even if he is not subsidized, i.e., provided a total return greater than his cost of funds plus the premium required to compensate him for residual risks) he wieghts an adverse change more heavily than a favorable change.

As discussed in the first section of this paper, the student loan system represents a questionable mechanism by which to subsidize schooling. However, even if a compelling argument for utilizing the student loan system as a subsidy device is presented, it is quite unlikely that an unanticipated change in financial markets (in interest, inflation and income- growth rates) would lead to a change in the desired degree of subsidization.

In summary, because an alternative device by which to reduce the risks associated with unanticipated economic developments can be imagined, it would appear that the appropriate response of the Federal government would be to facilitate recourse to that device (variable interest rates) rather than to provide for open- ended subsidization when interest rates (and borrower incomes) rise.

3.5 Terms of the Student's Obligation and of the Lender's Asset

In the absence of intervention by a third party the borrower's obligation is the lender's asset, and the terms of each are identical. Introduction of obligations on the part of third parties, e.g., government, may create significant differences between the borrower's liability and the lender's asset. The principle dimensions of each are, however, identical. These include:

> Interest rate and accrual provisions, considering

  < interest rate determination and variability, and

  < treatment of interest over the schooling period.

> Loan amortization provisions, considering

  < the repayment period and the time- profile of debt amortization, and

  < the degree to which payments are keyed to the borrower's income (ability to repay).

> Default provisions.

3.5.1 Interest Rate and Accrual Provisions

The most important issues concerning interest rates involve (a) how the rate is determined (by fiat, by the market process, or by some combination of these) and its variability over the life of the obligation (a fixed rate versus a rate keyed to changing conditions in financial markets), and (b) the provision which is made for interest payment or accrual during the schooling period (or other period of repayment deferral).

Interest rate determination.

The existing student loan system confronts the borrower with an interest rate which is determined by fiat. The legislation authorizing the NDSL and GSL programs explicitly specifies the rate which the student will pay on his obligation. When enacted, the interest rates specified in the NDSL and GSL legislation were not significantly different from rates generally imposed on, e.g., consumer loans. However, after more than a decade of almost continuously rising interest rates,[27] these legislated rates (even after

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[27] Until relatively recently, despite the rise in nominal interest rates, real interest rates declined, simply because the increase in the rate of inflation exceeded the increase in interest rates. Over the last two years, however, real interest rates have reached historically unprecedented

modest statutory increases) are significantly below the general level of unsubsidized interest rates. As has been indicated previously and will be discussed further below, to specify the student interest rate by fiat is to create a situation in which the degree of subsidization of the loan varies directly with movements in interest rates.

The alternative to interest rates set by fiat is to permit the rate to vary with financial market conditions. This could be achieved by permitting lenders and borrowers to freely negotiate rates, without external (statutory) constraint, relying on competition (of lenders and borrowers) to determine a rate comparable to those received on other comparably risky loans.

It might be argued that competition in financial markets is insufficiently strong to permit rates to be set without externally imposed constraints. For example, governmental regulations preclude certain forms of competition among lenders while also providing mechanisms by which to enforce anticompetitive agreements. While this argument is of questionable validity,[28] it has been utilized to justify statutory intervention. This intervention need not, however, take the form of fiat determination of interest rates invariant with conditions in financial markets. Alternatively, a specified relationship between student loan and other interest rates might be legislatively stipulated. Thus, the interest rate on the student's obligation might be set equal to some multiple (greater or less than unity) of market determined rates on government or private obligations, e.g., Treasury

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levels, as nominal interest rates have either risen or failed to decline despite declines in the rate of inflation.

[28] Even if valid, the conclusion that capital markets are noncompetitive would provide a more legitimate basis for actions designed to foster competition than for the imposition of further controls which are as likely to further reduce competition (and benefit lenders) as to benefit student borrowers.

bills or commercial paper.[29]

It can be argued that short- term financial market conditions are an inappropriate basis on which to determine interest rates on loans financing a long- term investment such as schooling. This assertion, however, does not vitiate the argument for relating student loan interest rates to other rates but does have implications for the issue of precisely to what interest rates (long- or short- term) the student loan rate should be tied and whether provision should be made for varying the rate over the life of the obligation. If the rate on the obligation is tied to short- term market interest rates, then it is desirable to permit the student loan rate to vary over the life of the obligation. Erratic short- term flucuations will then average out over the life of the loan, reducing their impact on the effective rate ultimately paid by the borrower. Alternatively, if the rate is to be fixed for the life of the loan, it should be keyed to market- determined long- term rates.

Viewing student loans as part of general income transfer policy, the Swedish system ties the obligation to a pension unit which is indexed for real and inflationary income growth.[30] This is the implicit equivalent of imposing interest at a rate equal to the rate of income growth. Because this rate will be highly correlated with interest rates, the result is to link student loan rates to financial market conditions only indirectly, insulating the student loan rate from erratic financial market developments. This device might be

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[29] Clearly, if the student loan rate is to be keyed to market conditions, it must be tied to a rate which freely flucuates rather than to one which is administratively determined and only tenuously related to market conditions. Thus, the prime rate would be a very poor candidate as a determinant of the student loan rate.

[30] For a description of the Swedish system and an informative comparative analysis of the student loan programs of Sweden, the United States and Canada, see Maureen Woodhall, Student Loans: Lessons from Recent International Experience (London: Policy Studies Institute, 1982).

considered preferrable to more direct financial market links but would serve much the same purpose.

If capital is provided to the student loan system via governmental appropriations or borrowing, then the interest rate on the students' obligations, adjusted for the costs of administering the program, determine the return to the ultimate lender, government. However, this rate will influence capital supply only indirectly (if at all), through the effect which the degree of subsidization has on the level at which government is willing to capitalize the program.

In a privately capitalized system the rate of return to the lender will critically and directly influence the supply of capital. Thus, if the interest rate on the student obligation is fixed, then, in the absence of an interest subsidy which is responsive to financial market conditions, capital supply will be highly unstable. Market rates above the rate on student loans will lead to a withdrawal of capital, while the reverse will occur if the market rate falls below the student loan rate. Thus, election of a fixed student loan rate virtually necessitates provision for a market responsive subsidy comparable to the GSL special allowance (keyed to the 91- day Treasury bill rate). As has already been suggested, the difficulty in this situation is that it is virtually impossible to determine if the interest subsidy is greater than would be required to induce a flow of capital equal to the demand by students at the fixed borrower rate. A rate less than required would be indicated by the formation of queues of borrowers at the lending window, although even this may be difficult to observe directly. But, if, because of regulation or collusion, lenders are prevented from actively competing for borrowers (by paying rebates, bonuses and kickbacks to borrowers), then it

will be impossible to verify that a subsidy is excessive. At the least, therefore, the flat rate on the student's obligation should be imposed as a ceiling on the rate which can be charged. In this event, an "excessive" subsidy will be reflected in a decline in rates actually imposed on student obligations to levels below the specified maximum.

In any event, private capital supply can be assured only if the interest rate received by the lender is permitted to vary with financial market conditions, regardless of how the rate on the student's obligation is determined. If the lender rate is to be fixed for the life of the obligation, this will logically dictate that it be keyed to long- term market rates; this choice will then be reflected in relatively heavy reliance on long- term debt for the capitalization of the system. In contrast, keying the lender rate to short- term market rates will require that the rate vary over the life of the obligation and will be reflected in greater reliance on short- term debt for capitalization.

It might be noted that one explanation for the necessity of a market-sensitive Federal interest subsidy is lender resistance to a variable interest rate on the student's obligation. While some initial expense would, admittedly, be involved in the creation of a system capable of administering variable rate loans, this is hardly a unique situation in the introduction of an innovation. The likely underlying basis for lender opposition is the general unfamiliarity of the retail banking sector with this type of obligation. With the widespread adoption of variable interest rate mortgages, the frightening novelty of a variable rate obligation should now have passed.

Treatment of interest over the schooling (deferral) period.

The very need to borrow (assuming that the borrowing is not motivated simply by opportunities for arbitrage arising from loan subsidization)

indicates that the student will be unable to pay current interest on the loan over the schooling period. To require that he do so will simply lead to additional borrowing in the first instance, equal to the interest which he will be required to pay. Implicitly, this additional initial borrowing will be equivalent to provision for interest accrual and compounding over the schooling period.

In principle, there is no reason why interest accrual and compounding prior to initiation of repayment should not be explicitly incorporated in the obligation. Such provisions are commonly included in other types of debt (call loans, revenue bonds, etc.). Objections to such provisions have come primarily from financial institutions, which have claimed that accrual and compounding would result in inadequate cash flow, undesirable increases in student loans as a proportion of the total portfolio and adverse tax consequences. In essence the first two are simply different statements of a single objection:. Accrued interest on past loans would exceed the amount of new loans which the institution would otherwise desire to originate. This statement, obviously, might or might not be true. If, at any time, it were true for a given lender, then that fact would reflect an error in the determination of prior loan originations. The future implications of interest accrual and compounding on present loans could certainly have been anticipated and the volume of prior lending appropriately adjusted to achieve desired current and future portfolio composition.

Even if interest accrual might conceivably lead to an excessive student loan portfolio for a particular financial institution, this would not be the case for the system as a whole unless returns to student loans were prevented from rising. Since implicit provision for interest accrual and compounding (in the form of higher initial borrowing to permit future payment of interest)

can be expected in any event if current payment of in- school interest is required, the aggregate level of student debt would not be expected to change in response to a shift from current interest payment to accrual of interest over the schooling period; thus, this change would not, per se, require an increase in interest rates.

It should be noted that, if interest accrual and compounding over the schooling period would not lead to undesired increases in student loan portfolios for the system as a whole, then no individual financial institution would be forced to hold an excessive student loan portfolio. Should an institution find its student loan portfolio growing excessively, it would simply sell some part of that portfolio to other investors in student loan paper. Thus, the avowed fear of excessively growing portfolios of student loans is misconceived and unfounded as an objection to interest accrual over the schooling period.

Recognizing the inability of students to pay current interest, the GSL and NDSL programs have provided not for accrual but rather for full Federal subsidization of interest over the schooling period.[31] This provision alone accounts for at least half of the total Federal subsidies embodied in these programs. While subsidization "solves" the problem of a student's inability

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[31] Prior to the Middle Income Student Assistance Act (MISAA) of 1978, current payment of interest while in school was required of students with adjusted family income above $25,000 (corresponding to a gross income of approximately $35,000). Because of the expense of periodic billing of small amounts (with interest set by statute at seven percent), especially by comparison to the virtually zero- cost of submitting a single, consolitated statement to the Federal government covering all fully subsidized loans, lenders commonly refused to make loans to those not qualifying for the full in- school subsidy. Clearly, the administrative expense of the bookkeeping entries required for interest accrual and compounding would be no greater than the expense of billing the Federal government. Thus, apart from its cash- flow consequences, which are superficial, a shift from fully subsidized to accrued interest should not alter the willingness of lenders to make student loans.

to pay current interest, it does so at significant expense and at the cost of other adverse consequences. Most notably:

> The in- school interest subsidy creates an opportunity for arbitrage which must be obvious to even the most financially unsophisticated, greatly stimulating the demand for loans.

> A subsidy in this form is of greater value the longer the student is in school and the longer the loan is outstanding. Thus, the incentive to borrow is greatest in the early years of schooling, and continuation in school is encouraged.

In light of the consequences, a strong case can be made for a conversion from full in- school interest subsidies to accrual and compounding of interest prior to repayment initiation.

It should be noted that the issue of treatment of interest over the schooling period is only one case of what might become a more general issue if other, desirable changes in the student loan system were adopted. Specifically, if, as discussed below, loan payments were graduated so as to rise in step with increases in borrower incomes or if the payments were made a strict function of the individual borrower's income, then it is quite likely that payments in the first years after leaving school would fall short of current interest on the obligation. Thus, in this instance as well provision for accrual and compounding of unpaid interest would be required.

Finally, it might be observed that the resistence of lenders to provision for interest accrual and compounding has reflected in part the unfamiliarity of those financial institutions involved in student lending with instruments which do involve an increase in outstanding principal over some part of the life of the obligation. In the last few years, however, innovations have

occured in the retail financial sector which render this phenomenon (of rising principal) less startling. For example, graduated payment mortgage loans have become common, and "negative amortization" (current interest in excess of the current payment) is a not- infrequent feature of these. Thus, resistance to negative amortization of student loans would be expected to be much less now than in the even recent past. Moreover, this resistance may indicate the benefits of shifting attention from the retail banking sector to other parts of the financial system which may provide a more appropriate institutional basis for the student loan system.

3.5.2 Amortization Provisions

As noted, this issue has two central components. The first concerns the duration of the loan repayment period and the time- profile of repayments over this period. The second concerns the degree to which the individual borrower's loan payments should be keyed to his income.

Duration and time- profile of debt amortization.

With the exception of students in particularly expensive, protracted programs of study (e.g., medicine), until quite recently accumulated student indebtedness was generally relatively small, by comparison to schooling costs and to the subsequent income of the borrower. Under these circumstances the duration of the repayment period and the precise time profile of debt amortization were not major issues. Increases in average levels of debt, however, have given these issues much greater significance.

As a general rule it can be argued that it should be possible to finance any investment in such a manner that the flow of returns to that investment are sufficient to permit the amortization of the obligation by which it was

financed. As discussed, education as an investment has the characteristic that financial returns rise rapidly over the early years of labor force participation. Thus, a significant fraction of the returns accrues only many years after leaving school. By implication, an "ideal" profile of educational debt amortization would provide for a stream of payments rising over time and extending over a significant fraction of the former student's earning lifetime.

Amortization of educational debt according to a rising schedule over a lengthy period is particularly important because of the other financial obligations and objectives of former students in the early years after completing schooling. Thus, many must incur substantial expenses associated with the commencement of a career. Having already deferred marriage and family formation, the years immediately after school represent a period over which most individuals would prefer to incur, not retire, debt, financing the purchase of homes, consumer durables, etc. Net debt retirement and positive financial savings occur only in middle age.

The existing NDSL and GSL programs are seriously nonoptimal in this context, providing for repayment over a maximum period of ten years in generally equal or declining installments.[32] Two primary explanations for this unduly restricted period and profile of debt amortization can be suggested. First, because Federal subsidies take the form primarily of interest supplements, the costs of student loan subsidies would rise dramatically if the repayment period were lengthened and a rising payment profile (concentrating principal payment in the later years) were provided. Second,

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[32] Apparently for bookkeeping ease, many lenders require payment of equal installments of principal plus current interest. As the principal declines, current interest also declines, resulting in a declining profile of payments over time.

the principle financial institutions involved in the student loan system, commercial banks, are engaged primarily in short- term lending rather than in long- term investment financing. Lending to individuals, in particular, is restricted almost entirely to consumer financing (e.g., of auto and other consumer durable purchases).

Neither of these bases for resistance to a more appropriate time- profile of educational debt amortization is compelling. Clearly, the degree of Federal subsidization and the relationship of Federal subsidization to the rate of debt amortization is subject to alteration. Thus, instead of providing interest subsidies the Federal government might provide a single initial payment equal to some fraction of the amount borrowed, converting its current loan subsidies into outright grants. The question of the desirability of using amounts borrowed as a basis for determining the magnitude of Federal grants to be awarded to individuals might well arise. This, however, can be argued to be an advantage. The current system camouflages the actual distribution of grants which are, on average, equal to more than 50 percent of the amount borrowed.[33] If front- end grant payments were made instead (equal for any borrower to the loan subsidies which he would otherwise receive), many supporters of the existing loan programs would probably be quite startled by the actual implications of these programs. In any event, the fact that, as currently structured, the existing loan programs would imply increased subsidy costs if repayment were extended over a longer period according to a graduated profile hardly constitutes a barrier to change, since the subsidy-magnifying effect could be offset by other changes in the programs.

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[33] This is demonstrated in Dresch, "Financial and Behavioral Implications of Federal Student Loan Programs and Proposals," op cit.

The resistance of financial institutions to a lengthening of the amortization period is also of little significance. As long as student loans continued to be profitable investments (i.e., to generate returns equal to those available on other comparably risking assets), these loans would still be made after a change in amortization provisions. Moreover, a shift of institutionalization from the retail financial sector to the longer- term investment sector (a development which has been discouraged by the short- term emphasis and retail banking orientation of Federal legislation) might permit significantly more flexible amortization at no increase (and possibly even a decrease) in required rates of return.

In short, there appear to be no substantial barriers to significant lengthening of the amortization period for student loans and to provision of a graduated profile of payments (rising in step with the approximate doubling of the average college graduate's real earnings over the first 20 years after completion of schooling). This change becomes progressively more important as relative reliance on debt for the financing of schooling rises.

With specific reference to the rate of increase in payments over time, it is implicit in the foregoing that this rate of increase should be expressed in real rather than nominal terms. Thus, in a more highly inflationary period payments would rise more rapidly than in a less inflationary period. Because income would also rise more rapidly in an inflationary period, only a more steeply graduated profile of repayments will achieve relative constancy in the relationship between loan payments and incomes.[34]

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[34] Because the average level of borrowing will also generally rise at the rate of inflation, repayments relative to income will be invariant with respect to the inflation rate if the interest rate and the rate of income growth rise point- for- point with the inflation rate, i.e., if the real interest rate and the real rate of income growth are constant.

Income- contingent repayment options.

While a relatively long- term graduated profile of repayments could be designed to key the borrower's loan payments to the average rate of growth of earnings over the post- schooling period, an individual's earnings history might diverge significantly from the average, with the consequence that amortization according to the average schedule would be seriously nonoptimal. For this reason a number of proposals have been made for student loan programs in which the borrower's payments are a strict function of his own income.

Clearly, in any program in which payments are strictly keyed to income, there is the prospect that an individual borrower's payments over the repayment period will be insufficient to amortize his original debt. Thus, it is necessary to couple income- contingent repayment provisions with some provision for covering the residual, unamortized debts of low- income borrowers. Two possible sources of funds for repayment of the unamortized debts of low- income borrowers can be identified: Excess payments of other borrowers and external (governmental) subsidies. While the second necessarily involves subsidies to the program and to low- income borrowers, the first may or may not constitute subsidies from high- to low- income borrowers.

In a program in which losses on the accounts of low- income borrowers are recovered via payments in excess of those required to amortize the debts of high- income borrowers, the degree to which the latter subsidize the former will depend on the initial expectations of the two groups. If both had identical loan repayment expectations at the time of borrowing, then the benefits to low- income borrowers can be more appropriately represented, conceptually, as net benefits of insurance against low income while the excess

payments of higher- income participants represent net insurance premia. Expectations concerning loan repayment, however, will be identical only if either (a) all participants have identical income expectations or (b) over a wide range of incomes expected loan amortization is invariant with respect to income. Thus, if the insurance model is to apply it is necessary either that borrowers be risk- rated and assigned to homogeneous income- expectations groups (with each group amortizing its own debts) or that the program be designed such that the vast majority of borrowers make payments sufficient, ultimately, to amortize loans slightly in excess of their original debts while only those with catastrophically low incomes fail to fully requite their obligations (resulting in what might be characterized as "disaster insurance").

Because income- contingent debt amortization may influence the behavior of borrowers (the level and timing of income received, the pecuniary-nonpecuniary composition of income, etc.) if the ultimate value of loan payments varies greatly with income, even if borrowers are grouped into homogeneous risk pools, an argument can be made for a program tending toward the disaster insurance end of the spectrum of alternatives. This suggests that any income- contingent loan program utilize a relatively high rate of payment (percentage of income) per unit (dollar) of debt and limit the excess payments of the vast majority of borrowers to amounts only slightly in excess of those required to amortize their debts.

It might be argued that it is not inappropriate for persons with higher income expectations and higher realized incomes to subsidize the loan repayments of those expecting and/or receiving lower incomes and thus that there is no reason to risk rate or to equalize expected loan amortization over

the wide range of incomes implied by the disaster- insurance model. To provide subsidies in this manner, however, will serve nonoptimally to deter participation of those with higher income expectations (unnecessarily reducing their levels of borrowing) and will inequitably place the burden of subsidizing those with low income expectations on that group of higher income individuals who had the misfortune (because of low family income and wealth or high schooling costs) to be forced to borrow to finance schooling. If it is desirable to subsidize low- income former borrowers, it is more appropriate that all high- income individuals contribute to that cause, and thus that losses on low- income borrowers be covered through general governmental subsidies.

As noted, income- contingent repayment provisions may have a number of consequences for the behavior of the borrower, either before or after leaving school. In addition to consequences for the timing and composition of income, the following potential implications should be recognized:

- If the payment as a proportion of income does not rise with the amount borrowed, the student will have an incentive to increase his borrowing. Because payments made further in the future have a lower present value than payments made earlier, a flat- rate repayment (invariant with the amount borrowed) will generally imply that larger borrowers will be subsidized relatively more heavily than those borrowing less. Thus, a strong argument can be made for a payment formula under which payments rise with both income and the amount borrowed.
- To avoid incentives to prolong schooling both repayments and the maximum obligation of the borrower should be based not on the amount borrowed but on the amount owed at the point of entry into repayment status.

> Equity in the treatment of working and nonworking spouses requires that the repayment obligation, at least under some circumstances, be based on joint rather than individual income.[35]

> The implication of alternative specifications of the borrower's maximum obligation should be recognized. There are essentially three possibilities:

< An incremental interest charge. In this case, the rate at which interest is accrued is set above the rate at which the program is funded (after taking into account any specified interest subsidy). The "contribution" which any borrower then makes to the amortization of the debts of lower income borrowers will be greater the longer his loan is outstanding, i.e., middle or lower income borrowers who eventually succeed in retiring their obligations will have made larger contributions than high income borrowers who quickly discharge their obligations (and hence are subject to the higher interest rate for a shorter period).

< A front- end charge (per unit of borrowing) on which interest accrues at the rate at which the program is funded. In this event the contribution of a borrower to the amortization of the residual debts of low income borrowers will be invariant with respect to his income and to the time required to fulfill his maximum obligation. This can be argued to be the most neutral specification of the maximum liability, since the contribution will be invariant with respect to the timing of payments.

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[35] Thus, for example, the Yale Tuition Postponement Option based repayment on the greater of (a) own income of the borrower or (b) one- half of joint income.

< A front- end charge on which interest does not accrue. In the limit interest might be specified not to accrue either on the additional charge or on the initial loan. In this case the contribution of a requiting borrower will decline in value to the program the later the obligation is completed. This type of provision[36] will encourage deferral of income to the future and will almost inevitably lead to substantial subsidies to lower income borrowers, i.e., this approach is effectively and necessarily incompatible with the disaster insurance model suggested above as the most appropriate basis for determining provisions of income- contingent repayment.

> The term over which a borrower may be required to make loan payments must be relatively long if the opportunity to avoid payments by shifting income into the future is not to be created. A relatively long repayment term (20 to 30 years) is also required if persons with identical long-term incomes but very different rates of income growth are to be comparably treated.

Income- contingent repayment provisions for educational loans have certain obvious advantages. However, most proposals for income- contingent repayment have included provisions which would have unanticipated and probably undesirable consequences. In general, the design of such schemes should attempt to achieve neutrality with reference to schooling and post- schooling behavior of borrowers or, at the least, explicitly recognize the non-neutralities embodied in the specific provisions embraced.

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[36] The Silber Tuition Advance Fund has this characteristic.

3.5.3 Default Provisions

In an entirely private system in which governmental intervention is limited to modifications in the legal status of student loan (and preferrably of other unsecured) obligations in the event of bankruptcy, private lenders could be relied upon to utilize the most efficient means by which to secure repayment of defaulted loans. Difficulties arise when, instead or in addition to modifications in bankruptcy law, the Federal government (or other third party) guarantees the obligation to the lender. In this event, the incentives to the lender to attempt to enforce the obligations on the borrower may be seriously eroded. In the extreme a lender may have no incentive to even attempt to impose repayment, permitting the guarantor to discharge the obligation.

This problem of lender incentives is particularly severe when there is effectively no loss to the lender of a default. The simple existence of costs of payment collection may then induce declarations of default when borrowers would in fact be willing to pay. Thus, even with some provision for guarantees it is necessary that some part of the costs of default remain with the lender. This can be accomplished by the imposition of some degree of coinsurance (with only a fraction of the cost covered by the guarantor), the cost to the lender being recovered through the interest rate required by lenders if capital is to be provided to the system. Although costs will be recovered in any event, at least the lender will have some incentive to enforce the obligations on the borrower.

This is in contrast to current GSL provisions which simply require the demonstration on the part of the lender of "due diligence" in the collection

of the loan.[37] The meaning of a term such as due diligence is necessarily vague, however, and enforcement of such a requirement inevitably leads to arbitrary and inconsistent regulatory and administrative actions and determinations. Financial inducements to lenders to secure repayment avoid such difficulties.

Whether provision is or is not made for coinsurance, if the student loan system is not to become an effective grant system (targetted on those most willing to disregard their obligations), serious efforts must be made by the guarantor to enforce collection of defaulted loans. To do so will, in the intermediate term, have significant consequences for the rate of default, thus both directly and indirectly reducing the costs of the guarantee.

3.6 Degree and Mechanism of Subsidization

Specification of the terms of the loan, as described above, effectively determine the degree to which the loan is subsidized. In principle, therefore, the choice between alternative terms should be made with reference to the consequences of the alternatives for the degree of subsidization and to the trade- offs between various provisions which leave the degree of subsidization unchanged.

There exist essentially two mechanisms by which a student loan program can be subsidized:

> Explicit or implicit interest subsidies.

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[37] As initially established, the GSL did provide for a degree of coinsurance, with the lender absorbing 20 percent of any default loss. This was eliminated ostensibly because it deterred lender participation. Obviously, however, lender participation could have been induced by providing for higher gross rates of return to student loan paper.

> Explicit or implicit subsidies to specific borrowers.

3.6.1 Interest Subsidies

Interest subsidies are incorporated in any situation in which the interest rate confronted by the student borrower is less than the rate charged in financial markets on other comparably risky loans (taking into account differences in costs of collection, etc.). The interest subsidy is implicit when capital is acquired either through direct governmental appropriations or through government borrowing at below- market rates. The subsidy is explicit when the rate received by private lenders is greater than the rate paid by the student.

The most serious difficulty associated with an interest subsidy is that it creates opportunities for arbitrage, i.e., for borrowing at the artificially low rate and investing the proceeds at higher market rates. Thus, it may induce entirely fictitious student borrowing, borrowing entirely unrelated to the individual's schooling.

Less obvious are the consequences of interest subsidies for student behavior in a wide variety of other domains. Most succinctly stated, subsidies in the form of artificially low rates of interest on stuient loans lead to changes in behavior which a student would not make were the same subsidy provided in a lump sum, unrelated to borrowing. Thus, the student may be induced to acquire higher cost schooling, to reduce the degree to which he relies on parttime work or on alternating periods of work and schooling to finance his schooling, to reduce his reliance on intrafamily funds (or, equivalently, to reduce the availability of funds from the family), etc.

There is no reason in principle why the subsidy implicit in a given interest rate differential could not be provided in cash to a borrowing student, as suggested previously. Thus, the interest rate on the student loan would be increased to equal the rate currently paid to the lender, but an amount equivalent (in present value) to the interest subsidy would be provided to the student as a grant. In this case the incentive to borrow would be even more obvious than is currently the case, but the primary effect (beyond increasing the costs of loan subsidies) would be to extend to the financially unsophisticated benefits which are currently being provided only to the financially sophisticated.

This proposal is, obviously, not put forth seriously, in that there is little prospect that it would be seriously entertained by Congress and the Administration. However, it is, in essence, equivalent to current procedures with the exception that current benefits are conferred disproportionately on the sophisticated. In fact, a conversion to a grant system in which grants were distributed in proportion to amounts which students borrowed would almost undoubtedly be politically indefensible, but this is exactly the consequence of current student loan subsidies. Neutrality with reference to individual behavior and politically commonly accepted conceptions of equity in the distribution of the benefits of governmental programs would both be served by a reduction or elimination of loan subsidies.

3.6.2 Targetted Subsidies

In contrast to general interest subsidies, targetted subsidies result from provisions of the loan program which confer differential benefits on some classes of borrowers relative to others. Thus, for example the in- school

interest subsidy differentially benefits those who pursue lengthier programs of schooling, default subsidies (especially those in excess of the level which would be implied if the legal status of the loan were strengthened and optimal efforts to enforce the obligation were made) benefit those most willing to evade their obligations as well as those who are financially unsuccessful, etc.

If the implications of the loan provisions were explicitly recognized in their determination, and thus, if the consequences were actively sought as a matter of policy, then there would be no basis for objecting to their incorporation. However, these consequences have generally not been recognized. Were they explicitly identified, it is likely that (a) many would not be deemed acceptable and (b) mechanisms for achieving the objectives more efficiently could and would be found.

As in the case of the general interest subsidy, the strongest objection to subsidies implicit in the terms of a loan is that they lead to unintended changes in student behavior. This is especially the case of subsidies which would be implied by many income- contingent repayment loan proposals, as discussed above.

Reiterating, the formulation of a student loan program should involve explicit consideration of the consequences of any configuration of loan terms for both the overall degree of subsidization and the distribution of these subsidy benefits over different classes of borrowers. Further, the likely consequences of the level and distribution of subsidization for the behavior of the borrower should be explicitly recognized. It should also be recognized that the subsidies resulting from specific features of a loan program may induce particular responses from other parties, e.g., educational

institutions, as, for example, if the degree of subsidization rises rapidly with increases in levels of borrowing, inducing institutions (especially higher- cost institutions) to raise charges with relatively little effective impact on the costs ultimately borne by the debt- financed student.

3.7 Rationing Criteria and Related Constraints

It is precisely because the subsidies inherent in the student loan system induce particular types of behavior on the part of students, educational institutions and lenders that constraints must be imposed on the various participants in the system. In the absence of subsidies only a misplaced paternalism could be argued to justify restrictions on the amounts which students would be permitted to borrow, the primary form of constraint in the existing programs.

The types of behavior requiring constraint have been suggested at several points above. It is sufficient here to briefly summarize these:

> Loan subsidies create incentives for arbitrage and for substituting debt for other sources of educational financing (work, family resources, etc.). As a result it is necessary to limit the amount of debt which the student is permitted to incur; in the absence of contraints the level of student borrowing would be expected to grow without limits (as individuals invested their student loans in higher- yielding assets). The adverse consequence of these limits is that individual students (or potential students) who truly require (and would be willing to pay an unsubsidized price for) access to higher than permissible levels of debt finance if a desirable educational investment is to be possible are denied access to funds. Conventional needs analysis is notoriously

arbitrary and imprecise, and the consequences of loan rationing are undoubtedly severe for many individuals.

> Loan subsidies may induce educational institutions to increase costs above levels which would be observed in the absence of subsidies. This is especially likely in programs in which the degree of subsidy rises with the accumulated level of debt. The response (as, for example, in the Silber Tuition Advance Fund proposal) is to provide for some external constraint on the rate at which institutional charges can be increased. This, however, freezes the existing structure of charges, prevents increases in charges associated with desirable educational- program developments, etc., in addition to creating the need for a regulatory bureaucracy.

> Subsidies implicit in default guarantees create incentives for lenders to fail to attempt rigorously to enforce student obligations. While efforts are made to induce adequate enforcement by such means as requiring due diligence, these are less than fully effective and also require creation of a regulatory bureaucracy.

While the benefits of loan subsidies may be argued to outweigh the costs, this conclusion has generally rested on a failure to seriously investigate the costs not only of the subsidies but also of the devices which have been imposed to limit their financial consequences for the student loan system.